RESTRICTED CIRCULATION

This paper is not an official document; it is for information only and reference cannot be made to it in any printed publication without the permission of the author.

AGRICULTURAL MEMORANDUM NO 464

Expectancy of Heavy Winter Rainfall - SOUTH MIDLANDS

L P Smith

Long-term records of 35 rainfall stations in the South Midlands were examined to determine the probable heaviest falls in 1 year, 2 years, 10 years over 1 and 5 days. (Rainfall in millimetres). Period - November to April.

Results

County	No of Stations	Mean Annual Rainfall	Heaviest 1 day falls in 1 year	2 years	10 years	Heaviest 5 day falls in 1 year	2 years	10 years
Oxford	5	700	20.0	23.8	32.0	40.4	46.8	60.8
Buckingham	6	696	19.0	22.8	31.3	38.3	45.2	57.8
Northampton	5	642	18.8	22.6	30.2	36.4	42.2	54.8
Warwick	12	693	18.9	23.2	31.2	38.4	44.7	46.7
Worcester	7	707	20.1	24.0	30.4	40.1	47.7	61.0

Combining these counties and re-analysing:

Rainfall Range	No of Stations	Mean Annual Rainfall	Heaviest 1 day falls in 1 year	2 years	10 years	Heaviest 5 day falls in 1 year	2 years	10 years
600-640	6	624	18.0	21.5	29.3	35.3	41.2	53.2
640-680	12	659	18.6	22.7	30.2	37.2	43.3	55.6
680-720	8	698	19.4	23.5	31.3	38.6	45.1	57.6
720-760	4	745	21.5	25.0	33.3	43.0	50.5	65.5
over 760	5	782	20.8	25.2	33.0	43.4	51.4	64.6

These results can be smoothed for the area; county corrections can be used to correct for small regional differences:

Average Annual Rainfall	Heaviest 1 day fall 1 year	2 years	10 years	Heaviest 5 day fall 1 year	2 years	10 years
600	17.4	21.1	28.8	33.9	39.3	51.1
650	18.5	22.3	30.1	36.7	42.7	55.2
700	19.6	23.5	31.4	39.4	46.2	59.3
750	20.7	24.7	32.7	42.2	49.6	63.4
800	21.8	25.9	34.0	44.9	53.1	67.5